What is claimed is:

1. An apparatus for feeding precise amounts of material to receptacles comprising:

a) a deflectable, curved weigh pan for receiving a continuous flow of material and discharging the material along a first pathway;

b) a variable speed receptacle conveyor for conveying a plurality of material receivers into said first pathway;

c) a deflection measurement means for continually measuring the deflection of said pan;

d) a controller to receive deflection measurement information from said measurement means and transmit a control signal indicative of said deflection; and

e) an actuator to adjust the speed of said receptacle conveyor responsive to a control signal from said controller.

2. The apparatus of claim 1, wherein said pan includes an upper end, a lower end, and a curved surface having a given radius of curvature between said ends, said material being fed onto the inlet end of said pan substantially perpendicular to the radius of curvature of said pan at said inlet end.

3. The apparatus of claim 1, wherein said deflection measurement means is a transducer.

4. The apparatus of claim 1, further including a support arm with a pivotally attached proximal end and a distal end, said pan being supported on the distal end of said arm.

5. The apparatus of claim 1, further including a material feed for feeding material to the inlet end of said pan.

6. The apparatus of claim 1, wherein said material receivers are intermediate hoppers.

7. The apparatus of claim 1, further including a variable speed feed conveyor for feeding material to said weigh pan, the speed of said feed conveyor being controllable by said controller.

8. The apparatus of claim 1, further including a guide plate having an inlet end for receiving said material, and an outlet end adjacent to and substantially in a plane with the inlet end of said pan.

9. An apparatus for feeding precise amounts of material to receptacles comprising:

a) a deflectable, curved weigh pan having an upper inlet end for receiving a continuous flow of material, a lower outlet end for discharging the material along a first pathway, and an inwardly curved surface having a given radius of curvature between said inlet and outlet ends;

b) a variable speed receptacle conveyor for conveying a plurality of material receptacles into said first pathway;

c) a deflection measurement means for continually measuring the deflection of said pan;

d) a controller to receive deflection measurement information from said measurement means and transmit a control signal indicative of said deflection; and

e) an actuator to adjust the speed of said receptacle conveyor responsive to receipt of an actuation signal from said controller.

10. The apparatus of claim 9, wherein said deflection measurement means is a transducer.

11. The apparatus of claim 9, further including a support arm with a pivotally attached proximal end and a distal end, said pan being supported on the distal end of said arm.

12. The apparatus of claim 9, further including a material feed for feeding material to the inlet end of said pan substantially perpendicular to the radius of curvature of said pan at said inlet end.

13. The apparatus of claim 9, further including a variable speed feed conveyor for feeding material to said weigh pan, the speed of said second conveyor being controllable by said controller.

14. The apparatus of claim 9, further including a guide plate having an inlet end for receiving said material, and an outlet end adjacent to and substantially in a plane with the inlet end of said pan.

15. An apparatus for packaging precise amounts of solid particulate material comprising:

a) a solid particulate material feeder having a feeder discharge end;

b) a deflectable, curved weigh pan having an upper inlet end for receiving a continuous flow of material along said feed pathway, a lower outlet end for discharging the material along a first discharge pathway, and an inwardly curved

surface having a given radius of curvature between said inlet and outlet ends, the radius of curvature at said inlet end being substantially perpendicular to said feed pathway;

c) a variable speed receptacle conveyor for conveying a plurality of material receptacles into said first pathway;

d) a transducer for continually measuring the deflection of said pan;

e) a controller to receive deflection measurement information from said transducer and transmit a control signal indicative of said deflection; and

f) a servo to adjust the speed of said receptacle conveyor responsive to receipt of an actuation signal from said controller.

16. The apparatus of claim 15, wherein said feed pathway is at an angle of from about 10° to about 30° from vertical, and said material is discharged substantially horizontally from said pan outlet.

17. The apparatus of claim 15, wherein said pan is deflected from a pivot point positioned along a line perpendicular to the radius of curvature of said pan approximately midway between said pan inlet and outlet ends.

18. The apparatus of claim 15, wherein said material feeder is a conveyor.

19. The apparatus of claim 15, further including a material feed for feeding material to the inlet end of said pan substantially perpendicular to the radius of curvature of said pan at said inlet end.

20. The apparatus of claim 15, wherein said controller is further adapted to control the feed of said material to said pan.